UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Mr. Alan Pollock
Virginia Department of Environmental Quality
629 E. Main Street
P.O. Box 1105
Richmond, Virginia 23218

Dear Mr. Pollock:

The U.S. Environmental Protection Agency (EPA) has reviewed the Virginia Department of Environmental Quality's (DEQ) request to re-categorize Sandy Bottom Branch (SBB, VAT-C10R_SBB01A00) and the Unknown Tributary to Sandy Bottom Branch (UTSBB, VAT-C10R_XAZ01A00) from Category 5A, for which *a water is impaired or threatened for one or more designated uses by a pollutant(s) and requires a TMDL*, to Category 4B, for which a *water is impaired or threatened for one or more designated uses, but does not require the development of a Total Maximum Daily Load (TMDL) because other pollution control requirements are reasonably expected to result in the attainment of Water Quality Standards by the next reporting period or permit cycle*. SBB and UTSBB are Consent Decree waters that were originally assessed as not supporting the aquatic life use in 1998 based on biological monitoring data collected at two different sampling stations (7-SBB000.17 and 7-XAZ000.30).

As explained in DEQ's letter, a stressor identification process consistent with EPA guidelines was conducted to identify the most probable source of the benthic impairment in SBB and UTSBB. The results of the stressor identification showed that Dissolved Copper (Cu) was considered the most probable stressor in SBB and UTSBB. However, in the year 2005, a new National Pollutant Discharge Elimination System Permit was established in the watershed, Tyson Farms Inc. (VA0004049). Since the establishment of the permit, the Dissolved Cu concentration in SBB and UTSBB has significantly decreased. Monitoring data collected from station 7-SBB000.17 shows that from 1998 to 2004 the average Dissolved Cu concentration in SBB and UTSBB was measured as 19.0 µg/L and from 2005 to 2009 the average Dissolved Cu concentration was measured as 7.1 µg/L. Based on the results of the recent monitoring data, the average Dissolve Cu concentration in SBB and UTSBB is currently attaining the 9.4 µg/L hardness-adjusted criteria for Cu.

As indicated by DEQ, as a consequence of the decreased Cu concentrations in SBB and UTSBB, the benthic macroinvertebrate condition has begun to show improvement. The results of the stressor identification process, water quality monitoring data, and biological monitoring data for SBB and UTSBB can be found in Enclosure 1.

Based upon the information provided by DEQ, EPA approves the re-categorization of the benthic impairment for SBB and UTSBB to Category 4B. Although SBB and UTSBB were originally identified as impaired based on biological monitoring data, a current analyses of the benthic community has shown that through the issuance of permit limitations, water quality conditions in SBB and UTSBB have improved. Therefore, there is no need for a benthic TMDL for SBB and UTSBB at this time. If future monitoring data indicates that conditions are not improving or remain impaired, it is EPA's understanding that DEQ will develop a TMDL.

If you have any questions or comments concerning this letter, please do not hesitate to call me or contact Mr. Greg Voigt, Virginia TMDL Coordinator, at 215 814-5737.

Sincerely,

Jon M. Capacasa, Director
Water Protection Division

Enclosure

cc: David Lazarus, VADEQ

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Philadelphia, Pennsylvania 19103-2029

SUBJECT: Approval of the Re-categorization Request for the Aquatic Life Use Impairment for Sandy Bottom Branch and the Unnamed Tributary to Sandy Bottom Branch, Accomack County, Virginia.

FROM: Helene Drago, TMDL Program Manager Helene Drago 10/4/10
Office of Standards, Assessment and TMDLs (3WP30)

TO: Jon M. Capacasa, Director
Water Protection Division (3WP00)

THRU: Larry Merrill, Associate Director Larry Merrill 10/6/10
Office of Standards, Assessment and TMDLs (3WP30)

1. EPA is approving the Virginia Department of Environmental Quality's (VADEQ) request to re-categorize Sandy Bottom Branch (VAT-C10R_SBB01A00) and the Unknown Tributary to Sandy Bottom Branch (VAT-C10R_XAZ01A00) from Category 5A to Category 4B on Virginia's §303(d) List.

2. Sandy Bottom Branch and the Unnamed Tributary to Sandy Bottom Branch are Consent Degree segments that were originally listed as impaired for the aquatic life use (general standard – benthic) on Virginia's 1998 §303(d) List.

3. EPA concurs with VADEQ that since the adoption of a point source discharge permit for the only permitted point source within the watershed, Tyson Farms, Inc., improvements have been made to both the instream water quality and to the benthic macroinvertebrate condition. Therefore, there is no need for a benthic TMDL at this time.

4. EPA has been working with the State of Virginia since August 30, 2010, to approve the re-categorization.

Table 1. Summary of Stressors in SBB and UTSBB

Category	Candidate
Non-Stressors	Low DO, pH, Temperature, Dissolved Heavy Metals in Water Column except Cu, Heavy Metals in Sediment, Organic Contaminants in Sediment
Possible Stressors	Nutrients, Chloride
Most Probable Stressors	Dissolved Cu in Water Column (prior to 2005)

Table 2. Metal Concentrations and Hardness in SBB and UTSBB (June 2009)

Parameters	SBB		UTSBB	
	Dissolved	Total	Dissolved	Total
Copper (µg/L)	4.44	5.1	4.47	4.58

- Recent water quality measures in SBB and UTSBB show that all measurements are below the water quality criteria (9.4 µg/L) for Dissolved Cu, which is a function of hardness.

Table 2. Sediment Cu Concentrations in SBB and UTSBB (July 2009)

Samples	Concentration (mg/kg)	Average (mg/kg)
SBB (1): Rep 1	3.83	3.93
SBB (1): Rep 2	4.02	
SBB (2): Rep 1	10.97	11.90
SBB (2): Rep 2	12.84	
UTSBB (1): Rep 1	5.92	6.38
UTSBB (1): Rep 2	6.84	
UTSBB (2): Rep 1	10.49	15.44
UTSBB (2): Rep 2	20.38	

- All of the Cu concentrations were one order of magnitude lower than the 149 mg/kg criterion for Cu, which is based on detection limits established by the Probable Effects Concentrations (PECs, MacDonald et al., 2000).

Table 3. CPMI Assessment Results for DEQ Monitoring Stations

Date	7-SBB000.17	7-XAZ000.30
10/13/1994	Moderately Impaired	Moderately Impaired
4/11/1995	Moderately Impaired	**Severely Impaired**
10/26/1995	Slightly Impaired	Slightly Impaired
4/10/1996	Moderately Impaired	Moderately Impaired
10/16/1996	Slightly Impaired	Moderately Impaired
4/17/1997	Slightly Impaired	Moderately Impaired
10/21/1997	Slightly Impaired	Moderately Impaired
4/14/1998	Moderately Impaired	Moderately Impaired
10/27/1998	Moderately Impaired	Moderately Impaired
4/14/1999	Moderately Impaired	Moderately Impaired
10/14/1999	Moderately Impaired	Moderately Impaired
4/11/2000	Moderately Impaired	Moderately Impaired
10/11/2000	Slightly Impaired	Slightly Impaired
4/16/2001	Slightly Impaired	**Severely Impaired**; Moderately Impaired *
10/3/2001	Slightly Impaired	**Severely Impaired**
4/3/2002	Slightly Impaired	**Severely Impaired**
10/2/2002	Slightly Impaired	Moderately Impaired
5/8/2003	Slightly Impaired;	Moderately Impaired

Date	7-SBB000.17	7-XAZ000.30
	Moderately Impaired *	
10/27/2003	Slightly Impaired	Moderately Impaired
4/6/2004	Moderately Impaired	Moderately Impaired
10/27/2004	Slightly Impaired	Moderately Impaired
4/26/2005	Moderately Impaired	Moderately Impaired
10/19/2005	Moderately Impaired	Slightly Impaired
4/27/2006	Moderately Impaired; Moderately Impaired *	Moderately Impaired; Moderately Impaired *
10/18/2006	Moderately Impaired; Moderately Impaired *	Moderately Impaired
5/8/2007	Moderately Impaired; Moderately Impaired *	Moderately Impaired
10/21/2007	Moderately Impaired	Moderately Impaired
4/29/2008	Slightly Impaired	Moderately Impaired
10/29/2009	Moderately Impaired	Slightly Impaired

*Indicates two assessments taken on the same day at the same station.

- From 2005 on, the benthic macroinvertebrate condition has improved as all the assessments were listed as "slightly impaired" or "moderately impaired".